

**What is claimed is:**

*Sub 34*

1. A material useful as a substrate for an embossed flexible graphite sheet, the material comprising a flexible graphite sheet having a void condition selected to produce a desired morphology upon embossing.

2. The material of claim 1 wherein the flexible graphite sheet is relatively void-free prior to embossing.

3. The material of claim 1 wherein the flexible graphite sheet is subjected to the application of pressure to provide the selected void condition.

4. The material of claim 3 wherein the flexible graphite sheet is densified to a density of at least about 1.1 g/cc prior to embossing.

5. The material of claim 1 wherein the flexible graphite sheet is impregnated with resin.

6. The material of claim 5 wherein the resin is present at a level of at least about 5% in the flexible graphite sheet.

7. The material of claim 6 wherein the resin comprises an acrylic-based resin system, an epoxy-based resin system or a phenolic-based resin system.

8. The material of claim 5 wherein the flexible graphite sheet is to be embossed in an embossing apparatus comprising an embossing element comprising walls having lands and a landing element comprising a surface, and the flexible graphite sheet has a thickness less than the height of the walls of the embossing element employed.

*Sub B1*  
*Cont*

9. The material of claim 8 wherein the flexible graphite sheet has a thickness less than the height of the walls of the embossing element but greater than the distance between the surface of the landing element and the lands of the walls of the embossing element.

10. A process for producing a material useful as a substrate for an embossed flexible graphite sheet, the material comprising a flexible graphite sheet having a void condition selected to produce a desired morphology upon embossing, the process comprising forming a flexible graphite sheet and manipulating the void condition of the flexible graphite sheet to produce the selected void condition.

11. The material of claim 10 wherein the flexible graphite sheet is manipulated so as to be relatively void-free prior to embossing.

12. The material of claim 10 wherein the flexible graphite sheet is subjected to the application of pressure to provide the selected void condition.

13. The material of claim 12 wherein the flexible graphite sheet is densified to a density of at least about 1.1 g/cc prior to embossing.

14. The material of claim 10 wherein the flexible graphite sheet is impregnated with resin.

15. The material of claim 14 wherein the resin is present at a level of at least about 5% in the flexible graphite sheet.

16. The material of claim 15 wherein the resin comprises an acrylic-based resin system, an epoxy-based resin system or a phenolic-based resin system.